# List of completed projects Xenia Bogomolec

## 1. WEB (AnguarJS, Javascript, HTML, SCSS, PHP, Wordpress)

**August 2015  – December 2015**
Project Malooja: Wordpress-Application with integrated Blog, Onepager and Web-Shop

- Child Templating
- SCSS with configuration-file according to style-guide of www.quellgebiet.ch
- Functional extensions in javascript
- Own Social-Sharing Widgets
- Plugin-Adaptions

**June 2015  – July 2015**
Wordpress Child-Templating for V-ZUG AG: http://blog.vzug.com

- Child Templating
- CSS according to style-guide of www.quellgebiet.ch
- Functional extensions in javascript
- Own Social-Sharing Widgets
- Plugin-Adaptions

## 2. TCP/IP (Python, AngularJS, jQuery, PostgreSQL, HTML, SCSS)

All information systems below are active at 17 various public transport enterprises, like SVHI Hildesheim, Verkehrs-und Tarif-Verbund Stuttgart, Pforzheimfährtbus, Busbetriebe Warschau, ...
All Login-Procedures are implemented according to Challenge-Response-Authentication.

**January 2014 – June 2015**
Testing, maintenance, installations and feature-extensions of systems below.

**February 2015 – May 2015**
Re-design according to design-guide and refactoring of browser modules into globally usable web-components.  (via AngularJS-directives,and SCSS-configuration file).

**November 2014 – January 2015**
VDV-Interface: HTTP-server and -client, interface between external HTTP-server and display-information-systems according to german VDV453-norm.

- Preparation and transmission of display- and station-specific timetables and additional informations.

**July 2014 – September 2014**
SIRI-Client: HTTP-client, API to databases according to european SIRI-norm.

- Preparation and transmission of display- and station-specific timetables and additional informations.
- Database-design

## March 2014 - June 2014
<u>Supervisor</u>: TCP/IP-client-server-system to monitor all running systems on clients physical servers.

- Local supervisors
- Central server with integrated webserver for overview table in browser
- Alert emails on suspicious behaviour

## May 2014 - July 2014
<u>QNET-Server</u>: TCP/IP-server and client with APIs to databases, prognosis-systems and displays.

- Preparation and transmission of display- and station-specific timetables and additional informations.

## Febuary 2014 - May 2015
<u>Display-Module</u>: Webserver and -client with integrated database-API, API to display servers and browser-app

- Websocket for dynamic contents
- Overviewtable of displays
- Live-streaming of displays in browser-app
- Display-screenshots in browser-app
- Remote-control of displays

## January 2014 – March 2014
<u>Information-Module</u>: Webserver and -client with integrated database-API and browser-app.

- Overviewtable for edited informations
- Forms to edit informations

## August 2013 – December 2013
<u>Service-Monitoring-Module</u>: Webserver and -client with APIs to database and prognosis-systems.

- Overviewtable for running trips
- Connection-tables
- Graphical line views
- Single trip tables
- Archiv-Function for ended trips

- Form to edit statistics

## 3. Computeralgebra (Singular, Algorithmic Algebra, Algebraic Geometry)

**December 2010 – November 2012**
Implementation of complex algorithms for libraries of the Computeralgebra-System Singular:

- Normalization of arithmetic surfaces
- Lipmans Desingularization-Algorithm

Both Libraries deal with transformation of singular sufaces into in largely isomorphic surfaces with better properties. Better properties in this context means, that small changes of the equation also do not change the related surface much. In an application, where equations represent an approximation of a real process, such a surface is a much more reliable information source.
All computations are polynomial.